

REMARKS:

Applicant has carefully studied the final Examiner's Action and all references cited therein. The amendment appearing above and these explanatory remarks are believed to be fully responsive to the Action. Accordingly, this important patent application is now believed to be in condition for allowance.

Applicant responds to the outstanding Action by centered headings that correspond to the centered headings employed by the Office, to ensure full response on the merits to each finding of the Office.

Claim Rejections – 35 U.S.C. § 101

Applicant acknowledges the quotation of 35 U.S.C § 101.

Claims 1-6, 11, 12, 19, 20, 22 and 24 stand rejected under 35 U.S.C § 101 as being directed to non-statutory subject matter.

Claim 1 has been amended to more clearly describe that which the applicant regards as the invention. Support for the amendment is found in the specification. Specifically, support for the claim amendment citing, "identifying at least one latent class of each gene in a first dimension", can be found in the original application as filed in paragraph [0013]. Paragraph [0013] states that the present invention seeks to explicitly model patterns, across genes, tissue samples, or time, and to determine the probability that each gene or sample is a member of each of the set of estimated latent gene or sample classes, respectively. Additionally, original claim 4 and claim 18 positively claim identifying latent classes of genes, thereby providing support for the amendment presented to claim 1. As such, the specification provides support for identifying at least one latent class of each gene.

In consideration of the amendment to the claims as presented in response to this Office Action, applicant believes that the 35 U.S.C § 101 rejections have been overcome and that the claims are now in condition for allowance.

Additionally, claims 19-22 have been canceled. Applicant reserves the right to pursue these claims further upon the filing of a divisional application in response to the previous restriction requirement or as a Continuation in Part application.

Claim Rejections – 35 U.S.C. § 112

Applicant acknowledges the quotation of 35 U.S.C § 112, second paragraph.

Claims 1-3, 5, 12, 18 and 24 stand rejected under 35 U.S.C § 112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

More specifically, claim 2 stands rejected in that the formula entered into claim 2 is not fully described as to parameters therein, such as “K” etc.

Applicant respectfully traverses the finding of the Office. As such, Applicant believes that the claims presented are definite as viewed from the vantage point of a person of ordinary skill in the art and that the prima facie case of indefiniteness has not been established. While additional specific parameters have not been identified by the Office, the applicant point out that the variable “K” is adequately defined in the claim. In the statement, $k \in \{1, \dots, K\}$ which indexes the directions of the multidimensional space, it is clear from this statement that “K” would be equivalent to the total number of dimensions in the multidimensional space. Additionally, the claims when read in view of the specification, are believe to be clear. Paragraph [0016] or the specification states that the method of the invention includes allowing human subjects observed or treated under differing observational or experimental conditions to form the first dimension in the associated multidimensional space; allowing measurements to form one or more additional dimensions; identifying latent classes of human subjects in the first dimension, and latent classes of measurements in the second direction; and calculating the likelihood that each human subject is a member of each identified latent class for the first direction while also calculating, simultaneously or serially, the likelihood that each measurement is a member of each identified latent class in its associated dimension. As such, Applicant

believes that the meaning of the term "K" used in the claims is apparent from the descriptive portion of the specification with clear disclosure as to its metes and bounds.

In view of the amendment to the claims, Applicant believes that the 35 U.S.C § 112, second paragraph rejection has been overcome and that the claims are in condition for allowance.

Applicant acknowledges the quotation of 35 U.S.C § 112, first paragraph.

Claims 1-3, 18 and 24 stand rejected under 35 U.S.C § 112, first paragraph, as failing to comply with the written description requirement. Specifically, the Office states that new matter was added via amending, filed 5/24/04. The Office contends that in claim 1, line 4, part (a), the amendment to require the providing of observations which are "related" to objects in contrast to the previous form of the claim wherein the observations are "on the objects" is considered broadening and therefore new matter.

Claim 1 has been amended and is now believed to overcome the 35 U.S.C § 112, first paragraph rejection and is now in condition for allowance.

Claim Rejections – 35 U.S.C. § 102

Applicant acknowledges the quotation of 35 U.S.C § 102(a) and (e)(2).

Claims 13-15, 19 and 21-23 stand rejected under 35 U.S.C § 102(a) and (e)(2) as being anticipated by Cabib et al. (U.S. Patent No. 5,784,162).

The Office states that Cabib et al. discloses the practice of imaging for biological research and medical diagnostics in the abstract wherein the last line therein indicates the interpretation of data using a mathematical algorithm. With specific reference to Claim 13, the Office cites column 5, line 61 through column 6, line 63 of Cabib as describing the imaging as being performed as directed to nucleic acids, via hybridization, and to distinguish cancer from healthy cells.

Claims 19-22 have been canceled.

Claims 13-15 have been amended and are now believed to be in condition for allowance.

Claim Objections

Claims 2, 5, and 12 stand objected to due to subscripts being so small in the formula therein set forth as to be unreadable.

Accordingly, the formulas and associated subscripts in the claims have been enlarged to improved readability.

Independent Claim 1 has been amended and is now believed to be in condition for allowance. Claims 2, 3, 18, 24 and 25 are dependent upon claim 1 and are therefore allowable by law.

Independent Claim 4 has been amended and is now believed to be in condition for allowance. Claims 5-10 are dependent upon claim 1 and are therefore allowable by law.

Independent Claim 11 has been amended and is now believed to be in condition for allowance. Claim 12 is dependent upon claim 11 and is therefore allowable by law.

Independent claim 13 has been amended and is now believed to be in condition for allowance. Claims 14 and 15 are dependent upon claim 13 and are therefore allowable by law.

The arguments presented are believed to have overcome the Office's rejections and objections to independent claim 23, placing claim 23 in condition for allowance.

Independent claim 16 has been amended and is now believed to be in condition for allowance.

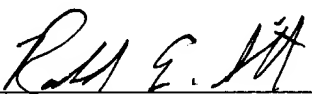
Claim 17 has been allowed.

If the Office is not fully persuaded as to the merits of Applicant's position, or if an Examiner's Amendment would place the pending claims in condition for allowance, a telephone call to the undersigned at (727) 507-8558 is requested.

Very respectfully,

SMITH & HOPEN

Dated: May 20, 2005


By: 
Ronald E. Smith
15950 Bay Vista Drive, Suite 220
Clearwater, FL 33760
(727) 507-8558
Attorney for Applicant

CERTIFICATE OF MAILING

(37 C.F.R. 1.10)

I HEREBY CERTIFY that this amendment is being deposited with the United States Postal Service as "Express Mail Post Office to Addressee," Mailing Label No. **EV624410868US**, addressed to: Mail Stop Petition, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on May 20, 2005.

Date: May 20, 2005


Shelley Butz